

Counseling Athletes Who Use Performance-Enhancing Drugs: A New Conceptual Framework Linked to Clinical Practice

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Doping, the use of performance-enhancing drugs by athletes, is a major concern that the media have publicized prominently. Sport governing bodies currently use two primary methods to dissuade athletes from doping: punishment and didactic education. Neither of these approaches has eradicated doping from competitive athletics because the practice appears to be increasing. Including clinical interventions in systemic campaigns that address this problem would be efficacious. The current article provides a conceptual framework that addresses doping from a psychologist's perspective and then operationalizes this framework, all the while identifying the unique environment in which athletes function. Practical interventions for working with clients who dope are identified, as are possible future research paths that could benefit work with this population.

Keywords: *game reasoning, motivational interviewing, sport psychology, transtheoretical model*

Introduction

Doping, for the purposes of the current article, can be defined as the use of a substance (e.g., anabolic steroid, beta blocker, human growth hormone, amphetamine, or erythropoietin) or medical technique (e.g., gene manipulation) that is not naturally occurring or the excessive use of a substance (e.g., caffeine) that is naturally occurring for the sole purpose of improving athletic performance. This practice is part of contemporary sport culture and has a long history. As far back as 4000 BC, the Sumarians used narcotics to enhance their physical performance (Wadler & Hainline, 1989), and early civilizations in Egypt, as well as the ancient Greeks and Romans, engaged in similar practices using hallucinogenic mushrooms, herbs, stimulants, and sesame seeds in an effort to aid their athletic performance and ability to build and harvest (Asken, 1988; Woolley, 1990). Between 1850 and 1890, boxers used brandy, cocaine, and strychnine to aid them during training and in matches. In 1904, the winner of the Olympic marathon had a difficult time remaining conscious after the race (Asken, 1988; Waddington, 2000). According to doctors at the site, this problem was the result of the amount of brandy and strychnine he had swallowed before and during his run.

Many of today's performance-enhancing substances find their origins in therapeutic or military uses (Waddington, 2000). However, these performance-enhancing substances are problematic because of the potentially negative consequences to those individuals who dope. This has ramifications for the

well-being or countries such as the United States, where the National Institute on Drug Abuse (2000) reported a five- to sixfold increase in the prevalence of anabolic steroid use among high school students in the 1990s. Although the World Anti-Doping Agency (WADA, 2006) documented prevalence rates of around 2%, much higher rates were apparent at the 1998 Tour de France (Dauncey & Hare, 2003), with support for rates of up to 45% at the 2000 Tour de France having been identified (Bahrke & Yesalis, 2002).

In addition, the 2004 Olympic Games witnessed a twofold increase in the number of positive doping cases (Tsivou et al., 2006). Along with adult usage data, researchers have shown that the use of these substances by adolescent athletes is on the rise (Calfee & Fadale, 2006). For example, Italian youth were documented at 1% to 2% in one study by Rossi, Abate, Braganò, and Botré (2009), with a group of Canadian adolescents reporting similar prevalence rates (Melia, Pipe, & Greenberg, 1996). Koch (2002) estimated that depending on the sport and substance, 8% to 15% of U.S. high school athletes use some performance-enhancing substance. Koch also estimated that the market value for the legal performance-enhancing substance industry in the United States was \$30 billion in 2000.

Contemporary athletes ply their craft in an environment heavily influenced by the public, the media, politicians, and sport governing bodies. Policies adopted by groups in these latter two categories over their interest in clean sport, a level playing field, or fair play (Asken, 1988; Todd, 1995; WADA, 2003; Waddington, 2000; Wadler & Hainline, 1989). Currently, two of the more frequently implemented methods designed to ameliorate doping are punitive (i.e., drug testing followed by punishment if the test is positive) and educational (e.g., ATLAS, ATHENA, and the U.S. Anti-Doping Agency, 2010). However, these policies have not reached their stated objective of eradicating doping¹ (Kayser, Mauron, & Miah, 2007) because the use of performance-enhancing drugs continues to be prevalent (Simon, Striegel, Aust, Dietz, & Ulrich, 2007; Waddington, 2000).

Although current interventions target doping behavior as their critical aim, the ultimate focus for athletes is their performance. In other words, doping is simply a means to an end, namely, improved performance and enhanced competitiveness. Until the attitude underlying the behavior is the focus of the selected intervention, we believe that doping will continue. Other researchers have concurred. For example, Petróczi (2007) stated that “anti-doping policies should consider attitudes or orientations toward the specific target end” (p. 1). Petróczi continued, “Sport governing bodies and anti-doping organisations need to recognise that [from the athlete’s perspective] using performance enhancements may be more of a rational, outcome optimizing behaviour than deviance” (p. 1).

Most athletes who choose to dope do so despite being aware of the harmful, risky, and possibly lethal impact of their decisions (Sjöqvist, Garle, & Rane, 2008). Depending on the substance used, the amount ingested, and one’s gender, doping can lead to decreased testicular size, reduced hormone production and masculinization in women, liver dysfunction, impotence, diabetes, and arthritis; thromboembolisms, cerebrovascular accidents, myocardial infarction, tremors, and stroke; dissociation with reality; and a number of other physical and psychological maladies (Mellion, Grandjean, & Ruud, 1999; Wadler & Hainline, 1989). In addition, doping is more prevalent among individuals with greater doping specific knowledge (Wanjek, Rosendahl, Strauss, & Gabriel, 2007). This dissonance between some athletes’ knowledge and behaviors has puzzled researchers (Asken, 1988; Gorn & Goldstein, 1993; Todd, 1995; Ungerleider, 1999; Waddington, 2000; Yesalis, 1998). Therefore, based upon the fact that (a) systematic efforts are currently employed to eradicate doping, and (b) a large number of athletes continue to engage in doping despite their knowledge of the deleterious, it appears that there

¹ Regarding educational programs, the ATLAS (Adolescents Training and Learning to Avoid Steroids; Goldberg & Elliot, 2005; Goldberg et al., 2000) and ATHENA (Athletes Targeting Healthy Exercise and Nutritional Alternatives; Elliot et al., 2004) programs supply encouraging results. However, these results are via self-report measures and require further validation.

is a need to improve the understanding of how psychologists may conceptualize doping behavior and operationalize their work with clients who dope.

Psychologists who are familiar with the unique environment of competitive sport (Anderson, Van Raalte, & Brewer, 2001) and the ethical service delivery issues pertaining to clinical work with this population (Hays, 2006; Moore, 2003) can play an efficacious role with athlete-clients such as those addressed herein. Although a number of book chapters and articles have been dedicated to clinical performance enhancement work (e.g., Harmison, 2006; Tenenbaum & Eklund, 2007), the extensive literature review that we performed did not uncover any articles addressing professional practice with those who dope. The purposes of the present article are to provide a framework for conceptualizing cases of doping and to illustrate how this framework may guide practice, thereby providing support for psychological intervention as an alternative or addition to current punitive and educational programs.

Conceptualization

In 1997, Bamberger and Yaeger conducted a survey that provided some insight into the minds of Olympic athletes relative to doping, their performances, and the consequences of their behaviors. Participants were asked whether they would use performance-enhancing drugs under the following hypothetical conditions: (a) They would not be caught, and (b) their use would result in a victory. Of the 198 athletes who participated, 195 responded “yes.” A second question asked these same athletes whether they would engage in this behavior if there were one added caveat, namely, that they would die within 5 years. One hundred and twenty (60.6%) of the respondents reported that they would still use performance-enhancing drugs. Among these elite athletes, knowledge of the extreme negative psychological and/or physical effects of doping appeared to have had little impact on their self-selected behavior.

Anshel (1991) documented reasons for athletes engaging in doping, including their desire to be competitive, increase their physical strength, reduce pain, relax, self-protect in reaction to subjectively perceived expectations of others, and cope with stress. Among many athletes, self-worth is heavily influenced by athletic successes and failures (Di Paula & Campbell, 2002; Flett & Hewitt, 2002; Hewitt & Flett, 1991). Thus, doping behavior may be understood within a number of relevant theoretical frameworks, three of which we briefly discuss here. First, the use of performance-enhancing drugs likely improves an athlete’s self-efficacy, which is a central tenant of social cognitive theory (SCT; Bandura, 1997). Athletes’ perceptions that they can perform a task and that performing the task will result in a desired outcome play a large role in their selected behaviors (Bandura, 1977, 1982, 1995).

Second, the expectancy-value theory (EVT; Feather, 1982), a component of SCT, posits that the stronger individuals perceive a link between their behavior and a specific outcome (e.g., an improved performance), and the more that they value the outcome, the greater is the motivation to engage in the behavior. However, this motivation to achieve an outcome becomes exceedingly extrinsic and less intrinsic (Deci, Koestner, & Ryan, 1999; Rawsthorne & Elliot, 1999). That is, as athletes’ beliefs that doping is positively correlated with an extrinsic reward, the more likely it is that the athletes will dope, and the less intrinsically motivated athletes become.

Third, social determination theory (SDT; Deci & Ryan, 1985, 1991) claims that all human behavior is the result of fluctuating levels of external and autonomous regulation. Someone who feels self-governed rather than imposed upon by an external force will experience more stable and enduring behaviors and greater well-being (Ryan & Deci, 2000). We expand on these perspectives next by incorporating concepts from game reasoning (Bredemeier & Shields, 1986) and an adaptation of Cloninger’s (1987) model of substance abusers.

Game Reasoning

By definition, competitive athletes are interested in outperforming others. According to game reasoning (Bredemeier, 1995; Bredemeier & Shields, 1984, 1986) athletes are susceptible to identifying so heavily with their sport that the “game” extends beyond the play clock. Game reasoning is exacerbated by athletic experiences that are almost exclusively zero-sum in nature (i.e., someone wins, and someone loses), encouraging athletes to emphasize their self-interest. If all preparation is “part of the game,” then competitors who are able to circumvent their governing bodies’ rules through doping in order to outperform rivals is similar, in many athletes’ minds, to a player hiding something from the referee (e.g., a baseball pitcher throwing a spit ball or an American football player “trapping” a pass). It is important to note that many individuals who become adept at violating the rules of the game without being caught are otherwise compliant with the rules and laws of the larger society (Bredemeier, 1995; Bredemeier & Shields, 1984, 1986; Schmitz, 1976).

Similar to Brehm and Cole’s (1966; Brehm & Brehm, 1981; Dillard & Shen, 2005) theory of psychological reactance (i.e., the opposite of the preferred response is chosen when an individual subjectively perceives a loss of freedom), game reasoning can be a very powerful predictor of behavior. That is, when athletes feel that they are being subjected to social forces that limit self-direction (i.e., autonomous regulation), they may respond in a manner contrary to what is desired (e.g., continuing to dope, even when a positive drug test would result in losing one’s professional livelihood). When conceptualized from the sport psychology perspective of game reasoning, the current punitive system designed to inhibit performance-enhancing drug use may actually promote athletes’ doping behavior. By setting themselves in opposition to drug [ab]using athletes, governing bodies may be stimulating competitive behaviors in those individuals who are the most skilled at competing. By extension, when athletes collectively accept that thwarting the governing body is “part of the game,” they may compete against each other to find increasingly deceptive means of doing so. Thus, a punitive approach may be more likely to inhibit, not facilitate, an antidoping agenda.

Social influences, such as those found in game reasoning, can be placed into three categories: compliance, identification, or internalization (Kelman, 1961). Some doping eradication practices focus primarily on compliance (i.e., attempting to effect an overt behavioral change via the obtainment of a reward or the avoidance of a punishment). However, such methods that have a goal of long-term behavioral change are quite ineffective (Laub & Sampson, 1995). Further adding to the challenge of effectively eradicating doping with punishment is the social milieu in which sports tend to reside. When the number of participants is large, as in many sports, and when there are limited tangible rewards, there is a very poor likelihood of a resultant prosocial behavior such as fair play (Glance & Huberman, 1994; Komorita & Parks, 1995).

Essentially, approaches based upon compliance elicit behavioral changes that last only as long as the reward or punishment exists, that is, extinction can and does occur (Skinner, 1953). Additional evidence of this failure has been found in recent media reports. For example, ESPN (2008) reported that the head of the U.S. Olympic Committee said, “We want to be in a place where we can stay ahead of cheaters,” (§ 10) and one of the world’s leading antidoping scientists reported, “They’ve been doing testing for 25 years” (§ 15). The phrase “stay ahead” implies competition, whereas the second quote provides some temporal perspective. For a quarter of a century, these efforts have been active, yet the reality is that doping continues.

When we consider how highly competitive athletes might view the traditional compliance-oriented approach used by many antidoping programs, we would expect many of them to perceive the intervention as a challenge, which may actually arouse athletes’ competitive fire. Competent clinicians understand the importance of considering a client’s perspective before proceeding with an intervention. Cloninger (1987) provided one of the many models of a substance abuser that when coupled with game

reasoning can serve as a useful conceptual framework to guide psychologists' clinical practice with clients who dope. It is important to note that we are not advocating for any single conceptualization of one's clients. However, Cloninger's model provides a succinct conceptualization that is congruent with the sport psychology and social psychology literature presented thus far and has found support in more recent literature (Cunningham-Williams et al., 2005; Grucza et al., 2006).

Cloninger's Model of Substance Abusers

A number of models in mainstream psychology provide succinct conceptualizations of addictive behavior. Some of these models specifically address drug usage. Cloninger's (1987) model identifies three intrapersonal psychological variables that play a role in alcoholism: novelty seeking, harm avoidance, and reward dependence. Table 1 illustrates the differences among Cloninger's Type I/A and Type II/B personality types. We expanded on Cloninger's model by adding a third type, Type III/C.

According to Cloninger (1987), Type I/A abusers ingest substances to cope with distress and/or anxiety by escaping. These people are construed as low in novelty seeking, high in harm avoidance, and high in reward dependence. Type II/B abusers ingest substances to fulfill their subjective needs for excitement and stimulation. These individuals behave in a manner that allows them to engage in disinhibitory behaviors. They are high in novelty seeking, low in harm avoidance, and low in reward dependence. If one entertains the notion that doping also represents a type of addicted and disordered behavior, then athletes who dope may constitute a third type of substance abuser: Type III/C.

A Type III/C abuser is conceptualized as one who consumes substances to get ahead of rivals and who likely exhibits high novelty seeking, low harm avoidance, and high reward dependence. High levels of reward dependence are akin to overemphasizing winning (i.e., the outcome), which has been argued as contributing to behaviors such as aggressiveness, taking short cuts, or cheating (Ntoumanis & Biddle, 1999). One also might suspect that for competitors who view risk and personal sacrifice in their sports as paramount, the potential harm involved in using performance-enhancing drugs may actually serve as a point of pride in that it demonstrates a willingness to risk what others may not. Being aware of this possibility can help practitioners to effectively investigate the clients' perceptions as they relate to each of the three factors in Cloninger's (1987) model, thereby aiding the selection of an appropriate intervention strategy.

Table 1 illustrates another potentially important issue that is highly congruent with game reasoning. Athletes, particularly elite athletes, may feel challenged by rules. That is, Type III/C individuals may be more likely to seek novel challenges (i.e., high novelty seeking) and their associated rewards (i.e., high reward dependence), while being rather low in levels of concern regarding undesirable outcomes (i.e., low in harm avoidance). Punitive consequences, such as those emphasized by various sport governing bodies, may be a motivator for some athletes as they attempt to avoid getting caught and not, as is likely perceived by the policymakers, comply with externally dictated forces (Aronson, 1995).

Table 1: Cloninger's (1987) Characteristics of Substance Abusers (Types I/A and II/B) With the Addition of a Third Type (III/C)

Personality Type	Novelty Seeking	Harm Avoidance	Reward Dependence
I/A	Low	High	High
II/B	High	Low	Low
III/C	High	Low	High

Sport psychology researchers also have recognized that the current most popular procedures for eradicating doping in sport are flawed and that other more efficacious methods are in order. For example, Strelan and Boeckmann (2003) identified that athletes who dope are more likely to abstain if intervention strategies based upon moral reasoning were used, rather than the current practice of emphasizing penalties, sanctions, or threats. Therefore, the optimal solution to decrease doping may lie not in challenging athletes with rules and sanctions, but by working with them to develop a mutually acceptable social contract or via clinical strategies that address their clients' incongruent cognitions (e.g., knowledge of detrimental effects of performance enhancing drugs) and behaviors (i.e., doping).

The threat of severe punishment for doping actually may increase individuals' self-justification of their current behavior and lessen the perpetrators' feelings that the sanctioned behavior itself is wrong or harmful. An alternative is to create situations where low levels of threat are perceived, which then results in higher levels of compliance. These perspectives deserve serious consideration because they are related directly to clinical practice via the selection of appropriate intervention strategies. Clinical techniques that are congruent with SCT, EVT, and SDT will allow athletes who dope the opportunity to construct, be aware of, and evaluate their own internal justification system, and they also will be a step toward helping them to develop a permanent, positive, and congruent set of values and behaviors (Aronson & Carlsmith, 1963; Freedman, 1965; Sears, Whiting, Nowlis, & Sears, 1953). It is a presentation of some of these techniques that we turn to now.

Selection of an Intervention Strategy

Individuals' behaviors within a society can provide strong insight regarding that society's interests and values. As an example relevant to doping, in 2004, the U.S. Food and Drug Agency (FDA) banned over-the-counter purchases of ephedra, a weight-loss aid popular at the time. Ephedra is known to have a number of harmful side effects, including death (e.g., Baltimore Orioles pitching prospect Steve Belcher in 2003), yet, a large number of people, despite being warned of the risks, purchased this drug because of its effectiveness in aiding weight loss. Sales of the drug were never higher than immediately prior to the ban's implementation. The healthiest known weight-loss method continues to be a well-planned exercise regimen coupled with a reasonable diet (Campbell & Hesketh, 2007; Pollan, 2003). However, this regimen is not necessarily the most popular path. It is possible that society as a whole emphasizes, and perhaps values, methods of goal achievement that are consistent with the Type III/C abuser described herein, insofar as Western culture emphasizes high reward dependence (e.g., quickly lose weight while minimally changing one's lifestyle) and low harm avoidance (e.g., a willingness to risk severe physical trauma). This provides some insight into the setting within which athletes live. It currently may not be possible for athletes who use, or who are planning to use, performance-enhancing drugs to comprehend the need not to do so, particularly if they perceive that many others are doing it. This is possibly congruent with other self-harmful behaviors (e.g., tobacco use as a means of weight maintenance by young women in cultures that value female thinness).

The two clinical frameworks discussed here are Prochaska and DiClemente's (1983; Prochaska, DiClemente, & Norcross, 1992) transtheoretical model (TTM) and Miller and Rollnick's (2002) motivational interviewing (MI) technique, both of which are congruent with SCT, EVT, and SDT. In addition, the TTM and the MI technique have empirical support of their effectiveness when applied to problematic behaviors similar to doping, such as smoking cessation, exercise adherence, and drug abuse (Prochaska & DiClemente, 2005; Williams et al., 2002; Williams, McGregor, Zeldman, Freedman, & Deci, 2004). Moreover, this discussion is not intended to be exhaustive, but introductory, because we recognize that other potentially effective clinical strategies could be used with clients who dope.

The TTM includes five stages of change: precontemplation, contemplation, preparation, action, and maintenance. An integral tenant of this model is the concept of change over time (i.e., people move through stages of change relative to substance abuse). For example, if doping behavior has any similarity to smoking, then a majority (i.e., 80%) of the individuals who dope are in the precontemplation and contemplation stages, whereas 20% are in the preparation stage (Velicer et al., 1995). In these early stages, individuals tend to resist internalizing any external feedback regarding high-risk behaviors, that is, the individuals who do not recognize that doping is problematic may be described as resistant, unmotivated, or not ready for behavioral change. Current antidoping programs are not appropriate for such individuals because the interventions inherent in these programs do not match the athletes' level of readiness, leading to poor outcomes. Even if athletes who dope acknowledge that they are engaging in risky behavior, they do not have sufficient motivation to alter that behavior.

If clinicians choose to implement the MI technique with clients who dope, then those professionals will essentially be implementing a "client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence" (Miller & Rollnick, 2002, p. 25). However, direct coercion or persuasion is avoided. In the MI technique, the clinicians helps the clients to identify and elaborate on their desire to change behavior (e.g., doping) while providing support and alternative views or behavioral options (Miller, 1983). Although not exclusive to the MI technique, there are four essential, underlying components to this approach: clinician empathy, discrepancy development, rolling with resistance, and the encouragement of self-efficacy (Miller & Rollnick, 2002). Clinician empathy allows clients to feel accepted and validated, which leads to increased chances of successful treatment (e.g., Valle, 1981). When developing discrepancy, clinicians and clients actively explore the risks and benefits of the clients' current behaviors while the clinicians continue to provide empathy and a supportive environment. During this process, the clinicians essentially help the clients to clarify conflicts among their values, motives, interests, and behaviors.

Although it may not always arise in a conspicuous manner, resistance likely will occur at some point. When it does, according to the MI technique, it is vital that clinicians avoid arguing with the clients because it likely will elicit reactance, thus exacerbating resistance to change. This is not to say that proposing alternatives is avoided; rather, those alternatives should not be imposed on the clients. In other words, clinicians should propose, not impose. The ultimate goal of the MI technique is to have the clients embrace and internalize responsibility for arguing to change their current doping behavior.

Finally, the MI technique allows clients to believe that they can overcome the challenge of changing the current doping behavior and handle the resultant impact on athletic performance. For example, given some athletes' levels of commitment to success, in order to develop the motivation to change behavior, athletes who dope may first need to shift their perspective from a willingness to do whatever it takes to win to an admission that they would use performance-enhancing drugs only if they were incapable of succeeding without them. Helping the clients to improve their self-efficacy in light of concerns such as this will be beneficial to the clients' future doping-free behavior and adherence to that behavior (see Bandura, 1997, for a full review of self-efficacy). Overall, when clients sense that they have a choice that is free from external pressure and coercion, they are more likely to implement and maintain a new behavior (Ryan, Deci, & Grolnick, 1995). The MI technique is highly congruent with this SDT perspective.

When performing clinical work with athletes who dope, clinicians must keep in mind the ambiguous feedback provided to them daily. For example, a number of newspaper articles decried "baseball's darkest day" when Barry Bonds was indicted by a U.S. Grand Jury for his doping behavior and for lying about it. However, the same media reporting such news pay major league baseball to televise their games, which are attended by a significant number of fans (i.e., the public) each year. While Manny Ramirez, a star player for the Los Angeles Dodgers, major league baseball team, was serving a 50-game (major league only) suspension for violating baseball's substance abuse policy, he played in

a number of minor league games (Hernandez, 2009). One of these minor league teams experienced record attendance for a game in which Ramirez played (Harrison, 2009). If the culture surrounding sport clearly recognized doping as an unambiguous problem, then these two groups (i.e., the media and the public) would not overtly support nor celebrate (e.g., purchase apparel) the achievements of athletes who abuse performance-enhancing drugs.

Contemporary and historical interventions such as being sentenced to perform community service or enter a drug rehabilitation program often seem to assume that individuals are ready for and wish to embrace an immediate and permanent behavioral change, or at least these punitive measures seek to force this readiness upon the target population without evidence of the effectiveness of such interventions. The TTM and the MI technique make no such prejudicial assumption. Both models recognize that different individuals have distinctive values and perspectives that require unique interventions. When participants sense that there is a mismatch among their needs, readiness, and an intervention, then the effectiveness of the intervention is compromised. In contrast, the TTM and the MI technique encourage the use of interventions that match the specific needs and readiness of the individuals involved. Furthermore, present-day action-oriented programs typically use a single, often dichotomous (i.e., the athlete either does or does not dope) measure of outcome as the sole evaluative rubric. Any progress that does not reach this criterion is not recognized. This is particularly problematic, for example, in the early TTM stages (e.g., precontemplation), which is where many athletes who engage in doping behavior find themselves. Progress at this early stage typically does not involve easily observed changes in overt behavior. However, all progress should be recognized within a supportive and empathic environment within each stage in order to facilitate effective treatment.

Conclusion

Athletes at a variety of performance levels encounter numerous positive social, physical, and self-evaluative reinforcers, including money, medals and trophies, attention, or a historical legacy. Often, dissonance exists between the reality of a sport's culture and its stated ideals. We propose that performance-enhancing drug users are highly motivated to seek novelty, are primarily interested in the outcome, and remain relatively disinterested in potential harm. Although further research is needed to test this hypothesis, if one assumes that some members of this population fit this profile, then contemporary interventions that emphasize the potential harm in doping (e.g., punishments or poor health) clearly do not appeal to the subjective needs of the target audience.

In contrast, interventions that facilitate athletes' exploration of (a) who they are as people; (b) why they compete; and (c) the purpose of competition in their lives (e.g., challenge, interest, or motives) will likely prove more effective. Clinicians who practice with this awareness and who advocate for congruent public and private sector policies will be facilitating positive mental, emotional, and physical health. Recent sport psychology literature has suggested the value of such an approach (Donahue et al., 2006). Providing an empathic, nonjudgmental, and nurturing environment in which clients are free to (a) improve their self-awareness, (b) critically evaluate their environment, and (c) experience dramatic relief will aid the clients in their movement toward self-selecting nondoping behaviors.

The WADA (2003) reported that "doping is fundamentally contrary to the spirit of sport" (p. 3). If doping were considered fundamentally contrary by all, then it would not be nearly the ubiquitous problem that it has become. Clearly, some athletes, as well as their sport-related cultures, perceive at least some constructive relationship between sport and doping.

Summary and Future Research

Doping in sports has increased significantly since the middle of the 20th century (Waddington, 2000). In some ways, it is surprising that given the objective information about the deleterious effects of doping, athletes continue to abuse performance-enhancing substances. Calls from such public figures as the president of the United States for ethical and moral adherence do not appear to be effective deterrents. As with a great deal of clinical work involving athlete clients who engage in self-injurious behaviors, complex interpersonal, intrapersonal, social, and environmental factors often are involved (Brown, 2001). These factors likely interact in a systemic fashion resulting in certain behaviors (e.g., doping). Interventions that are proactive and based upon the principles underpinning the TTM and the MI technique have the potential to produce a positive effect on the entire systemic doping decision-making process.

One option for antidoping campaigns is to continue on the current path of punitive consequences and educational programming. However, this is likely to have continued minimal impact, as the current paradigm is conceptually and theoretically flawed. It tends to emphasize following rules for the sake of the rules. When this is the overarching principle, then the moral development of those targeted is likely to be retarded (DeVries & Zan, 1995; Shields & Bredemeier, 2007). Interventions based on sound theory and scientific investigations of substance abuse have the potential to effectively decrease the prevalence of doping behavior by augmenting programs currently in place. For example, the NCAA now includes programs designed to deal with gambling and drugs. However, a program that is directed only at the athletes' behaviors, while ignoring their perceptions and cognitive distortions, will likely be ineffective. Interventions that address these factors via empirically supported approaches are recommended. The TTM and the MI technique have been shown to be effective clinical interventions relative to alcohol abuse, smoking cessation, exercise adherence, and chemical dependency (Prochaska & DiClemente, 2005; Williams et al., 2002, 2004).

Future research that explicitly attempts to clarify athletes' subjectively perceived affect, cognitions, and behaviors relative to doping is encouraged. Research that evaluates the moral development of athletes who dope in comparison to those who do not by specifically evaluating differences in game reasoning factors (Shields & Bredemeier, 2007) will further the understanding of clinically relevant conceptualizations of these clients' perceptions. Research that evaluates the level of doping athletes' novelty seeking, harm avoidance, and reward dependence will be beneficial. Studies in these areas may provide additional conceptual clarity for those professionals who provide clinical services to this population. Resultant data can then be used to support or refute the efficacy of certain clinical antidoping interventions. For example, an analysis of the progress within one stage of the TTM and the ways in which athletes transition from one stage to the next will help to determine whether the intervention is more successful with some individuals than with others, or with individuals in one stage, but not with individuals in another stage.

Finally, the link between attitudes and behaviors is not strong (Ajzen, 1991; LaPiere, 1934). Assumptions that everyone should have the same attitude and behavior based upon a single objective reality neglect individuals' subjective perceptions and subsequent behaviors. The punitive measures and educational programs currently employed to eradicate doping have been largely ineffective. Every competitor's decision to dope must be treated individually. Clients' decisions about past, present, and future doping behaviors are highly individual and complex. To achieve the goal of doping-free sport, policymakers and clinicians must carefully consider the athletes' unique environmental influences, cognitive processes, and affective experiences, as well as the systemic integration of these factors. Without such a thorough approach, the doping era in sport is likely to continue.

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